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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte FABIO CASATI and MING-CHIEN SHAN

Appeal 2008-3361
Application 10/066,098[1]
Technology Center 2100

Decided:[2] April 28, 2009

Before HOWARD B. BLANKENSHIP, JEAN R. HOMERE, and CAROLYN D. THOMAS, *Administrative Patent Judges*.

HOMERE, *Administrative Patent Judge*.

DECISION ON APPEAL

[1] Filed on January 31, 2002. The real party in interest is Hewlett Packard Co.

[2] The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1 through 26. We have jurisdiction under 35 U.S.C. § 6(b). We reverse.

Appellants' Invention

Appellants invented a method and system for dynamically selecting a conversation logic for a workflow definition at run-time based on a discovered service. (Spec. 5: 4-11.) As depicted in Figure 2, the workflow definition (204) may invoke one or more services from a service module (208) having a plurality of services, each service supporting a conversation protocol. (*Id.* at 8: 16-20.) Upon the workflow definition (204) invoking a service (208), the service module (208) forwards the identifier (218) for the invoked service to a dynamic conversation selection mechanism (DCLSM 210), which includes a conversation logic repository (CLR 211) having a plurality of conversation logics. The DCLSM (210) then selects from its CLR (211) a conversation logic tailored for or compatible with the conversation protocol of the invoked service. *(Id.* at 9: 1-14.) However, if the DCLSM (210) finds in the repository no conversation logic associated with the identified conversation protocol, an administrator develops a corresponding conversational logic, and dynamically plugs it into an associated node of the workflow definition (204). (*Id.* at 9: 15-26, and *id.* at 18: 4-15.)

Illustrative Claim

Independent claim 1 further illustrates the invention as follows:

> 1. A method for selecting a conversation logic at run-time for a workflow definition that includes at least one node with no hard-coded conversation logic, the method comprising the steps of:
>
> a) maintaining a conversation logic repository that includes at least one conversation logic that is external to the workflow definition;
>
> b) when executing the node with no hard-coded conversation logic, dynamically discovering a service associated with the node with no hard-coded conversation logic;
>
> c) determining a corresponding conversation logic in the conversation logic repository based on the discovered service; and
>
> d) dynamically plugging in the determined conversation logic into the node at run time.

Prior Art Relied Upon

The Examiner relies on the following prior art as evidence of unpatentability:

Acharya	US 2003/0140119 A1	Jul. 24, 2003 (filed Jan. 18, 2002)
Coupal	US 6,931,574 B1	Aug. 16, 2005 (filed Oct. 24, 2001)

Rejections on Appeal

The Examiner rejects the claims on appeal as follows:

Claims 1 through 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Acharya and Coupal.

Appellants' Contentions

Appellants argue that the combination of Acharya and Coupal does not teach determining a corresponding conversation logic in a conversation logic repository based on a discovered service, and dynamically plugging the determined conversation logic into a node of a workflow definition at runtime, as recited in independent claim 1. (App. Br. 5-8, Reply Br. 2-3.) In particular, Appellants argue that Acharya's disclosure pertains to a service discovery proxy that, upon receiving a service query, determines a suitable communication protocol to use to communicate with local devices in order discover the services provided by such devices. (*Id.*) According to Appellants, Acharya's disclosure teaches determining the communication protocol *before/ in order to* discover the services of local devices, whereas the claimed limitation requires determining the conversation logic *after/ based on* discovered services. (*Id.*) Further, Appellants argue that Acharya's disclosure of merely discovering available services at local devices does not teach the recitation of dynamically plugging the determined conversation logic into a node at run-time. (App. Br. 7-8, Reply Br. 4-5.) Appellants also argue that Coupal does not remedy the deficiencies of Acharya, and that the cited references are not related to each other. Therefore, Appellants submit that the references are not properly combinable. (App. Br. 9.)

Examiner's Findings/Conclusions

The Examiner finds that Acharya's disclosure of a communication protocol for a service teaches the claimed conversation logic. (Ans. 12.) The Examiner further finds that Acharya's disclosure of evaluating the responses obtained from multicasting service discovery packets over a plurality of network media using a plurality of communication protocols to select therefrom an appropriate protocol teaches determining a corresponding conversation logic based on a discovered device. (*Id.*) Additionally, the Examiner finds that Acharya's disclosure of dynamically modifying a service discovery response to enable a user to utilize the service when it is to be executed teaches dynamically plugging the determined conversation logic into a node at run-time. (*Id.* at 13.) Additionally, the Examiner finds that both Acharya and Coupal are directed to determining appropriate protocol. Therefore, the Examiner concludes that Acharya and Coupal are properly combined to render independent claim 1 unpatentable. (*Id.* at 13-14.)

II. ISSUE

Have Appellants shown that the Examiner erred in concluding that the combination of Acharya and Coupal renders independent claim 1 unpatentable? In particular, the issue turns on whether the proffered combination teaches determining a corresponding conversation logic in a

conversation logic repository based on a discovered service, and dynamically plugging the determined conversation logic into a node of a workflow definition at runtime.

III. FINDINGS OF FACT

The following findings of fact (FF) are supported by a preponderance of the evidence.

Acharya

1a. As depicted in Figure 1, Acharya discloses a system that enables a remote requester (105) to communicate with a service discovery proxy (102) to resolve a request among currently available service providers (106, 107) within a local domain (100). (P. 1, para. 0017.)

1b. Upon receiving an inquiry from a requester (105), the service discovery proxy (102) queries a central registry (103) with which it registered service and location information to locate service providers capable of providing a response to the inquiry. (P. 2, para. 0028.)

1c. The service discovery proxy (102) then determines the appropriate communication protocol to be used. This involves multicasting service discovery packets over various network media using various communication protocols, and evaluating the responses to the multicast to thereby determine the most appropriate protocol. (P. 3, para. 0037.)

1d. Upon receiving a response to an inquiry from the provider, the service discovery proxy customizes it in accordance with the criteria provided by the requester before forwarding it to the latter party. (P. 2, para. 0032; p. 3, para. 0038.)

Coupal

2a. As shown in Figure 1, Coupal discloses a protocol analyzer (12) for analyzing and interpreting captured data packets traversing a communications network (30). (Col. 8, ll. 14-21.)

2b. The protocol analyzer (12) includes a protocol database storage location (34) that defines the format of the transferred packets. (Col. 9, ll. 2-8.)

IV. PRINCIPLES OF LAW

Obviousness

Appellant has the burden on appeal to the Board to demonstrate error in the Examiner's position. *See In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006) ("On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness.") (quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

> Section 103 forbids issuance of a patent when 'the differences between the subject matter sought to be patented and the prior art are such that the subject matter

> as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.'

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 404 (2007).

In *KSR*, the Supreme Court emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art" and discussed circumstances in which a patent might be determined to be obvious. *Id.* at 401 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 13-14 (1966)) (citation omitted). The Court reaffirmed principles based on its precedent that "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *Id.* The operative question in this "functional approach" is thus "whether the improvement is more than the predictable use of prior art elements according to their established functions." *Id.* at 401, 415, 417.

The Federal Circuit recently recognized that "[a]n obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not." *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007) (citing *KSR*, 550 U.S. at 414). The Federal Circuit relied in part on the fact that Leapfrog had presented no

evidence that the inclusion of a reader in the combined device was "uniquely challenging or difficult for one of ordinary skill in the art" or "represented an unobvious step over the prior art." *Id.* at 1162 (citing *KSR*, 550 U.S. at 417-18).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986).

The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. *See Kahn*, 441 F.3d at 987-988; *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991); *In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Moreover, in evaluating such references it is proper to take into account "not only the specific teachings of the references but also the inferences which one skilled in the art would reasonably be expected to draw therefrom." *In re Preda*, 401 F.2d 825, 826 (CCPA 1968) (citation omitted).

V. ANALYSIS

Independent claim 1 recites in relevant parts determining a corresponding conversation logic in a conversation logic repository based on a discovered service, and dynamically plugging the determined conversation logic into a node of a workflow definition at runtime.

We first consider the scope and meaning of the expression "*conversation logic*" which must be given its broadest reasonable interpretation consistent with Appellants' disclosure, as explained in *In re Morris* :

> [T]he PTO applies to the verbiage of the proposed claims the broadest reasonable meaning of the words in their ordinary usage as they would be understood by one of ordinary skill in the art, taking into account whatever enlightenment by way of definitions or otherwise that may be afforded by the written description contained in the applicant's specification.

In re Morris, 127 F.3d 1048, 1054 (Fed. Cir. 1997). *See also In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989) (stating that "claims must be interpreted as broadly as their terms reasonably allow."). Appellants' Specification states the following:

> The term "conversation logic" as used herein refers to the specification of the operations to be invoked on a service, as well as, when and under which conditions the operations are to be invoked. The term "conversation" as used herein refers to a set of interactions (e.g. a sequence of operation invocations) between the workflow and the service. Conversations take place according to the specified conversation logic and within the rules defined by the conversation protocol.

(Spec. 8: 21-26.)

Our reviewing court further states, "the 'ordinary meaning' of a claim term is its meaning to the ordinary artisan after reading the entire patent." *Phillips v. AWH Corp.,* 415 F.3d 1303, 1321(Fed. Cir. 2005).

Upon reviewing Appellants' Specification, we find that a conversation logic is defined as specified operations that are to be invoked on a service, as well as the conditions under which such operations are to be invoked. We will, therefore, construe the cited expression consistent with the definition provided in Appellants' Specification.

As set forth in the Findings of Facts section, Acharya discloses a service discovery proxy that selects the most suitable communications protocol from among a plurality of protocols to forward an inquiry to an identified service provider. (FF. 1a-1c.) We find that Acharya's disclosure of the communications protocol does not teach a conversation logic as construed above. A communications protocol generally refers to a set of rules or standards designed to enable computers to connect with one another in order to exchange information with as little error as possible.[3] While the conversation logic can be construed as a set of rules, the general standards encompassed by the communications protocol are not particularly concerned with invoking services, let alone specifying when and under what conditions such services should be invoked. Further, we agree with Appellants that Acharya's disclosure of selecting the most suitable communications protocol is not based on a discovered service. Rather, it is based on the responses to the multicast of discovery packets using the various protocols. While Acharya teaches using a service inquiry to determine the protocol, we find that such inquiry is not a discovered service. It is merely a request supplied by a user to locate a service provider. We thus agree with Appellants that

[3] *Microsoft Press Computer Dictionary*, 83 (2d ed. 1993).

Acharya does not teach or suggest determining a conversation logic in a conversation logic repository based on a discovered service. Additionally, we also agree with Appellants that Coupal does not cure these noted deficiencies of Acharya.

Because the proffered combination fails to teach at least one limitation required by claim 1, we need not reach Appellants' arguments regarding other claimed limitations. It follows that Appellants have shown that the Examiner erred in concluding that the combination of Acharya and Coupal renders independent claim 1 unpatentable.

Since claims 2 through 26 also recite the limitations discussed above, we find that Appellants have shown error in the Examiner's rejection of these claims for the same reasons set forth above.

VI. CONCLUSION OF LAW

Appellants have shown that the Examiner erred in rejecting claims 1 through 26 as set forth above.

VII. DECISION

We reverse the Examiner's decision to reject claims 1 through 26.

REVERSED

Ec/pgc

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